



Summary of Fishery Surveys Fireside Lakes, Rusk County, 2009 – 2010

WDNR's Fisheries Management Team from Park Falls completed fyke netting and electrofishing surveys in 2009 and 2010 to assess the status of important fish populations in Fireside Lakes. Fyke netting in October 2009 yielded useful information on black crappie. Fyke nets set shortly after the spring thaw targeted walleye, muskellunge, northern pike, and yellow perch. A late-spring electrofishing survey documented the abundance and size structure of largemouth bass and bluegill populations. Quality, preferred, and memorable sizes referenced in this summary are based on standard proportions of world record lengths developed for each species by the American Fisheries Society. "Keeper size" is based on known angler behavior.

Survey Effort

On October 7, 2009 we set seven fyke nets for one night to intercept fall movements of black crappies. On April 8, 2010 we set seven fyke nets at locations chosen to intercept early-spring spawning species and fished them overnight for two nights when water temperature was 51°F. Comparing measured water temperature with the optimal spawning temperature range of the target species, our spring fyke netting probably occurred during the peak spawning activity for muskellunge but after the peak spawning activity of pike, perch, and walleye. With water temperatures at 74-75°F, our early June electrofishing survey was a little late to represent the relative abundance and size structure of largemouth bass during their peak spawning activities. We sampled the entire 3.60 miles of shoreline in 1.58 hours, including one mile sub-sampled for panfish in 0.45 hour.

Habitat Characteristics

Fireside Lakes is a 302-acre, two-basin, drainage lake (Mud Lake & Rice Lake) located about 13 miles south of Bruce, WI. Maximum depth is 30 feet. Water color is moderately clear (Secchi disk visibility = 6 feet). The lakebed is comprised of 60% sand, 10% gravel, and 30% muck substrates that support a moderate density of submersed and emergent vegetation. Two intermittent streams flow into the southwest basin (Mud Lake), and Rice Creek discharges to the Chippewa River from the northeastern basin (Rice Lake). The shore-land vegetation is made up of upland hardwoods, conifers, and tag alder. Aquatic invasive species include Chinese mystery snails and curly-leaf pondweed. Visitors have access to the lake through the public boat landing maintained by Rusk County on the northeast shore.

Summary of Results

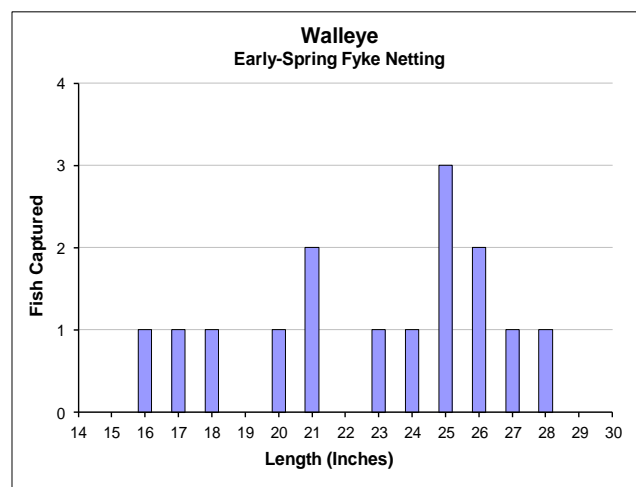
We captured 21 fish species in our netting and electrofishing surveys. High fish species diversity can be attributed to Fireside Lakes' direct connection with the Chippewa River. Largemouth bass were the principle predators with bluegill as their principle prey. Yellow perch, white suckers, and redhorse complemented the forage base. Our samples included black crappie, northern pike and muskellunge in low abundance. We also observed a dead sturgeon about 6 feet long in the southwest basin in early spring.

Walleye



Early Spring Fyke Nets

Captured 1.1 per net-night $\geq 10"$	
Quality Size $\geq 15"$	100%
Preferred Size $\geq 20"$	80%
Memorable Size $\geq 25"$	47%



Our low fyke-net capture rate of walleyes reflects very low adult density and very low survival of young fish in recent years. Walleye captured during this survey were most likely remnants from the stocking of small fingerlings (1-3 inches) in 1999, 2000, 2001, and 2005 as well as movement from the connected Chippewa River. Poor reproductive success in the walleye population may be due to poor spawning habitat. The walleyes captured showed capabilities of reaching near trophy size with a number of fish in the memorable size range (≥ 25 inches) offering anglers a unique fishing opportunity.

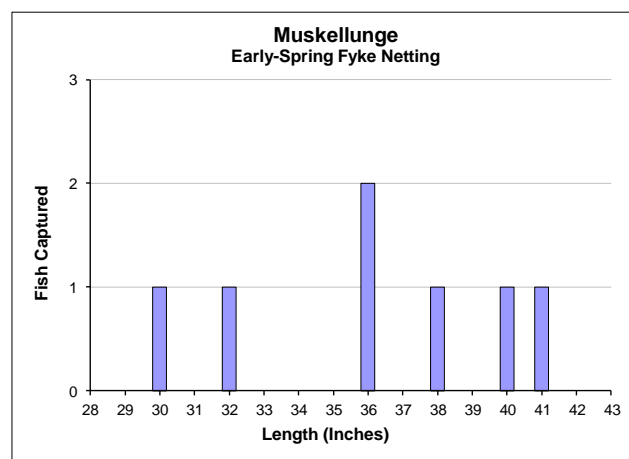
Since the conclusion of this survey, walleye stocking has resumed. Walleyes from WDNR hatcheries were stocked as 2-inch fingerlings in summer 2011 (10,667) and as large fingerlings (6-8 inches), in fall 2013 (4,525). We believe that survivors of these stockings will be helpful in maintaining predatory control over abundant bluegill, allowing these panfish to grow fast and reach angler-preferred sizes.

Muskellunge



Early Spring Fyke Nets

Captured 0.6 per net-night $\geq 20"$	
Quality Size $\geq 30"$	100%
Preferred Size $\geq 38"$	43%



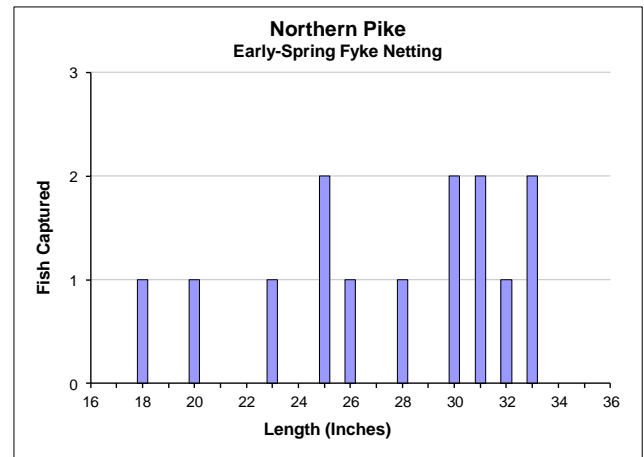
Though sample size was small, our capture rate of muskellunge ≥ 20 inches long in early spring fyke nets indicated a low-density adult population that included some fish of preferred size. Recruitment stems from a combination of in-lake natural reproduction and movement from the Chippewa River. Adult muskellunge are probably not full-time residents in Fireside Lakes; they undoubtedly move between these lakes and the river seasonally, and more frequently.

Northern Pike



Early Spring Fyke Nets

Captured 1.0 per net-night ≥ 14 "	
Quality Size ≥ 21 "	86%
Preferred Size ≥ 28 "	57%



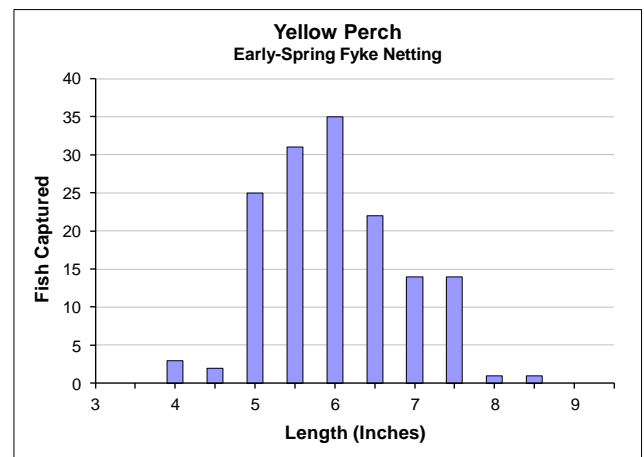
Northern pike in several age classes were captured at a low rate in spring fyke nets, suggesting a low-density pike population with above-average size structure. In low abundance pike can avoid competition and grow quickly to preferred and memorable sizes. There is a moderate abundance of perch (northern pike's preferred prey) and suckers to promote satisfactory growth. Compared with many waters where small pike in high abundance are often considered a nuisance, anglers can expect slower-than-average catch rates and better-than-average size structure.

Yellow Perch



Early Spring Fyke Nets

Captured 10 per net-night ≥ 5 "	
Quality Size ≥ 8 "	1%
Preferred Size ≥ 10 "	0%



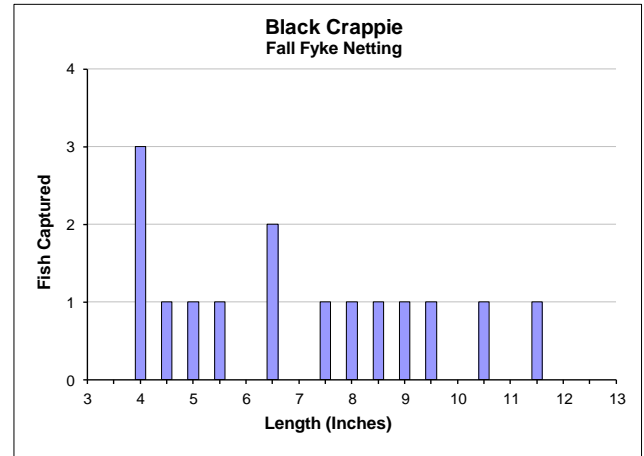
Yellow perch in early spring fyke nets were captured at a moderate rate with below average size structure. Quality-size perch ≥ 8 inches were rare throughout the lake, suggesting that muskellunge, northern pike, and anglers are eating the largest perch from the population. Young perch are also the preferred food of walleye and largemouth bass.

Black Crappie



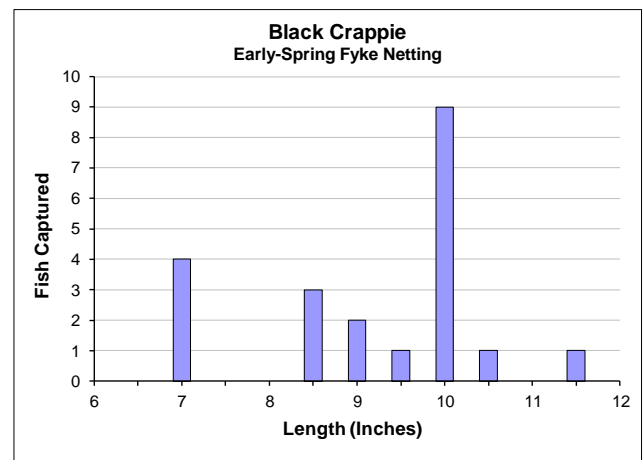
Fall Fyke Nets

Captured 1.6 per net-night $\geq 5"$	
Quality Size $\geq 8"$	55%
Preferred Size $\geq 10"$	18%



Early Spring Fyke Nets

Captured 1.4 per net-night $\geq 5"$	
Quality Size $\geq 8"$	77%
Preferred Size $\geq 10"$	50%



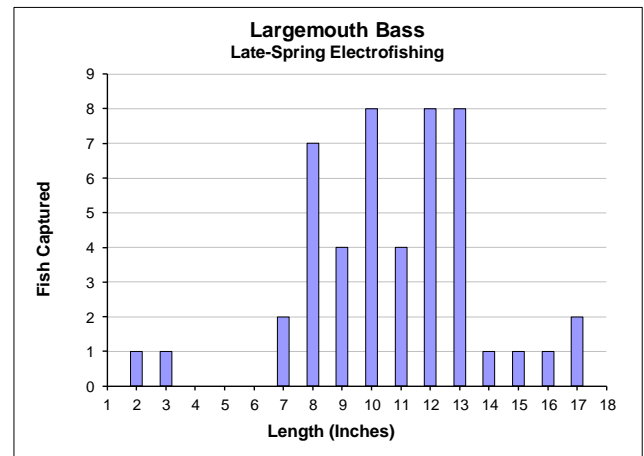
Our low capture rates of black crappies in both spring and fall fyke nets point toward low population abundance. Our catch did represent a variety of age classes indicating consistent, yet low recruitment. Age analysis using scales revealed that black crappie in Fireside Lakes are 10.2 inches long at age 6 (range 10.0-10.4; n=7), nearly identical to the regional average length of 10.1 inches at that age.

Largemouth Bass



Late Spring Electrofishing

Captured 12 per mile or 28 per hour $\geq 8"$	
Quality Size $\geq 12"$	48%
Preferred Size $\geq 15"$	9%



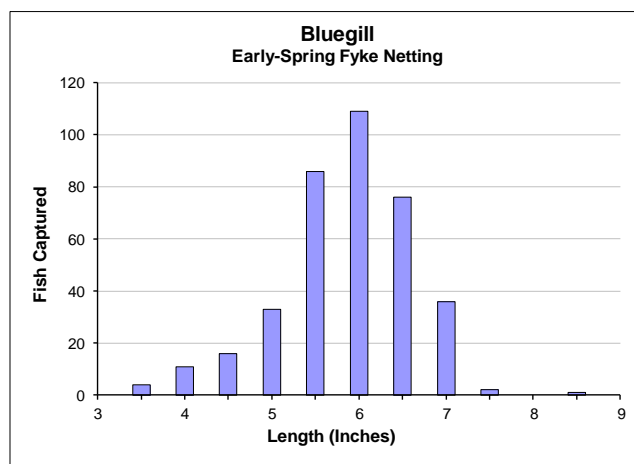
The late spring electrofishing survey revealed a largemouth bass population in low to moderate abundance with most fish in the 8-13 inch range. We suspect that bass suffer high mortality, either from angling or natural causes, once they reach legal size (14 inches).

Bluegill



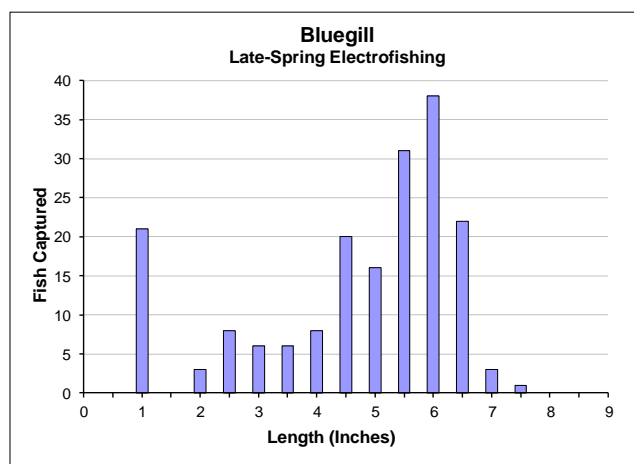
Early Spring Fyke Nets

Captured 27 per net-night ≥ 3 "	
Quality Size ≥ 6 "	60%
Keeper Size ≥ 7 "	10%
Preferred Size ≥ 8 "	0.3%



Late Spring Electrofishing

Captured 145 per mile or 336 per hour ≥ 3 "	
Quality Size ≥ 6 "	42%
Keeper Size ≥ 7 "	3%
Preferred Size ≥ 8 "	0%



Bluegills captured in early spring fyke nets and by electrofishing indicate a moderately high population abundance with few fish ≥ 7 inches.

Age analysis using scales collected from spring fyke nets suggest that bluegill in Fireside Lakes grow to 6.2 inches in 6 years (range 5.4-7.2, $n=14$), 0.7 inch below the regional average length at that age. Slow growth and poor size structure may be attributed to insufficient predatory control by relatively low-density populations of largemouth bass and walleye. Increased predator abundance could help to “thin out” intermediate-size bluegill, allowing more fish to reach angler-preferred sizes.

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Written by: Chad Leanna, LTE Fisheries Technician, Park Falls, April 7, 2014

Edited and Approved by: Dave Neuswanger, Fisheries Supervisor, Hayward Field Unit, May 12, 2014

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

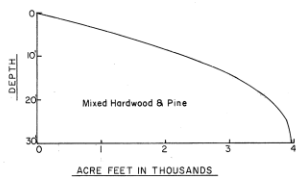
LAKE SURVEY MAP

FIRESIDE
LAKES

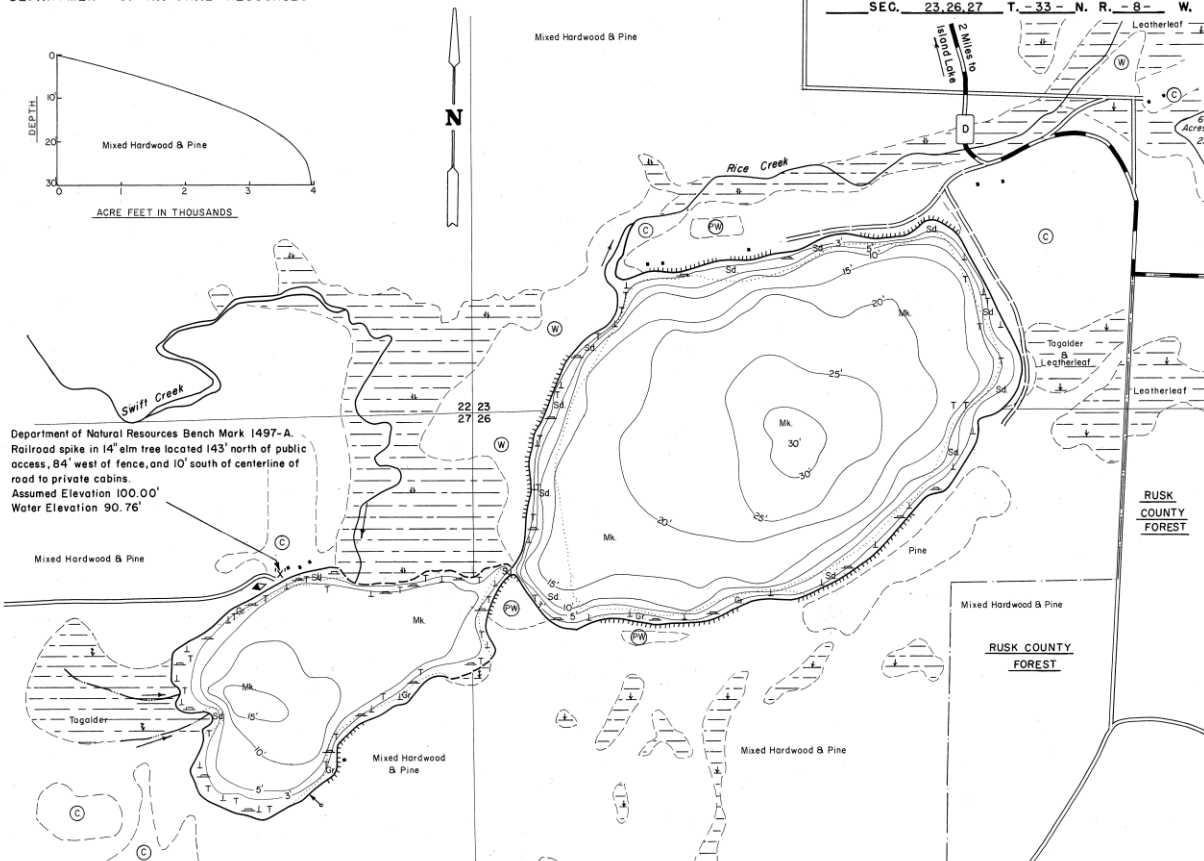
RUSK
COUNTY

SEC. 23, 26, 27

T. 33 - N. R. 8 - W.



Department of Natural Resources Bench Mark 1497-A.
Railroad spike in 14" elm tree located 143' north of public
access, 84' west of fence, and 10' south of centerline of
road to private cabins.
Assumed Elevation 100.00'
Water Elevation 90.76'



EQUIPMENT RECORDING SONAR MAPPED MAY 1969

TOPOGRAPHIC SYMBOLS	MONTH	YEAR	LAKE BOTTOM SYMBOLS
(B) Brush			P. Peat
(PW) Partially wooded			Mk. Muck
(W) Wooded			C. Clay
(C) Cleared			M. Marl
(P) Pastured			Sd. Sand
(A) Agricultural			St. Silt
B.M. Bench Mark			Gr. Gravel
Dwelling			R. Rubble
Resort			Bc. Bedrock
Camp			

Access Access with Parking Boat Livery

Drawn by: J. Bath

Field work by: C. Busch, C. Boller, S. Johannes

SPECIES OF FISH	1969	1970	1971
Muskie			
N. Pike	X		
Walleye	X		
L. M. Bass	X		
S. M. Bass			
Panfish	X		
Trout			

WATER AREA 301.8 ACRES

UNDER 3 FT. 18 %

OVER 20 FT. 26 %

MAX. DEPTH 30 FEET

TOTAL ALK. 52 P.P.M.

VOLUME 3,971.6 ACRE FT.

SHORELINE 3.84 MILES